

Application No. : 09/422,208
Filed : October 19, 1999

As discussed in the Applicant's specification, one drawback of conventional optical inspection devices is that they often malfunction when the stock materials used in injection molding are sufficiently transparent. The Applicant determined, among other things, that by adding fluorescent colorant to the stock materials and then energizing the fluorescent colorant with ultraviolet light, the Applicant increased the ability of the inspection devices to detect workpiece defects or damaged leftover stock materials in the mold, thereby alleviating various problems of conventional devices. According to one embodiment, the fluorescent coloring is transparent, and therefore, does not change the original color of the workpiece in ambient light.

The Applicant claimed systems and methods of using the fluorescent colorant as follows.

8. A method . . . comprising:

injecting molding material including a fluorescent colorant into a mold to create a workpiece; . . .

directing ultraviolet light into at least a portion of the mold with sufficient energy to cause emissions from the fluorescent colorant of any remaining molding material to be detectable; and

when remaining molding material is detected, removing the remaining molding material.

15. An optical inspection system . . . comprising:

a reusable mold which accepts flowable materials comprising a fluorescent colorant, . . . and

a light source which directs ultraviolet light toward the reusable mold with sufficient energy to energize the fluorescent colorant of any leftover flowable materials within the reusable mold.

21. An optical inspection system . . . comprising:

a light source which directs a first light toward a workpiece made from materials including a fluorescent colorant . . . with sufficient energy to cause the fluorescent colorant to emit a second light;

an inspection device which inspects the workpiece by detecting the second light, wherein the second light comprises light of a wavelength visible to humans.

Recently, the Federal Circuit addressed the concern of using hindsight, e.g., the Applicant's own disclosure, in obviousness-type rejections. In *In re Dembicza*k, cited by the Applicant in the most recent response, the Federal Circuit warned against using the inventor's disclosure as a blueprint without evidence of a suggestion, teaching or motivation in the prior art. 175 F.3d 994, 999 (Fed. Cir. 1999). Shortly after *Dembiczak*, the Court in *In*

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re Kotzab, explained that "particular findings must be made as to the reason the skilled artisan, with no knowledge of the claimed invention, would have selected these components for the combination in the manner claimed. 217 F.3d 1365, 1371 (Fed. Cir. 2000) (emphasis added). Failure to have such particular findings led the Court to overturn an Examiner's and a Board's finding of obviousness.

As in *Dembiczak* and *Kotzab*, the Applicant respectfully asserts the Office Action fails to establish a *prima facie* case of obviousness for, among other things, failing to provide an acceptable motivation to combine the Hill et al. and Neefe patents with the Shibata et al. patent. For example, Hill et al. disclose a molding device for molding contact lenses. Hill et al., and by reference, Neefe, teach that it is known to incorporate a fluorescent colored pigment into lens material in order to later identify appropriate lenses from, for example, counterfeit lenses. As the Examiner recognized, the Hill et al. patent fails to teach or suggest use of any mold inspection device because their molding process does not need one. For example, Hill et al. state:

External mold release agents, especially water-soluble . . . agents . . . may be utilized . . . to facilitate demolding. Alternatively, the inner surface of the mold may be lined with . . . film . . . [which] is easily removed from the mold surface following injection . . . To help facilitate the release even further, the mold . . . [can be] slightly heated . . . Another demolding process utilizes water . . . Col. 13:62 - Col. 14:7.

Thus, one of ordinary skill would not be motivated to look for an optical mode inspection device utilizing ultraviolet irradiation for the Hill et al. mold because Hill et al. simply choose mold release agents that apparently vitiate any need for any type of inspection device. Thus, the skilled artisan having no knowledge of the claimed invention would not make a patent defeating combination of prior art.

In the Office Action of May 22, 2002, the Examiner argues that the Shibata et al. patent provides the necessary motivation to add an optical mold inspection device to watch for incomplete separation of the molded article from the mold. See Page 11. The Applicant agrees with that were a skilled artisan looking for a mold inspection device, the specific mold inspection device taught by the Shibata et al. patent could be properly combined based on the above-cited motivation. However, as discussed, in this case a skilled artisan having the Hill et al. design does not need an inspection device and therefore, outside of

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improper hindsight from Applicant's invention, there is no motivation for combining any teachings from the Shibata et al. patent.

Moreover, even if the Board or a Court found a skilled artisan would be motivated to combine the Shibata et al. optical inspection device, which it should not, the combination still fails to create a *prima facie* case of obviousness against the claims. In order to establish a *prima facie* case of obviousness for the claims, the combination of Hill et al., Neefe, and Shibata et al. must teach or suggest all the claim limitations. See M.P.E.P. § 2143. As cited in the foregoing, each of the pending independent claims recite a light source used to cause emissions from the fluorescent colorant in the workpiece.

As argued in both of the Applicant's previous responses, Shibata et al. discloses a plastic injection mold watching device which uses a television camera, a television, and photo sensors placed on the television screen, to detect whether there is incomplete separation of the workpiece from the mold through either the brightness of the surface of the mold or the luminance of the workpiece. The Examiner appropriately identified that the Shibata et al. photo sensors rely on the color of the workpiece, and that Shibata et al. fails to teach or suggest use of an energized color of the workpiece based on an exterior-generated energy source, such as, for example, an ultraviolet light source. Thus, the Applicant submits the Shibata et al. patent fails to teach or suggest any light source, let alone a light source for causing the fluorescent colorant in a workpiece to energize and emit light.

Thus, the combination of Hill et al., Neefe, and Shibata et al. still fails to teach or suggest all limitations of Claims 8, 15 and 21. Accordingly, the combination fails to establish a *prima facie* case of obviousness against the pending independent claims, and the Applicant respectfully requests allowance of the same. Moreover, the Applicant also respectfully requests allowance of Claims 9-14, 16-20 and 22-24 because of the claim elements recited therein and because they depend from the Claims 8, 15, and 21.

The Applicant therefore submits that the pending claims, Claims 8-24, are patentably distinguished over the cited references.

REQUEST FOR TELEPHONE INTERVIEW

In view of the forgoing, the present application is believed to be in condition for allowance, and such allowance is respectfully requested. If further issues remain to be

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hereby formally requests a telephone interview with the Examiner. The Applicant's attorney can be reached at (949) 721-2946 or at the number listed below.

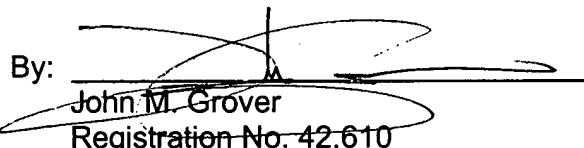
CONCLUSION

Please charge any additional fees, including any fees for additional extension of time, or credit overpayment to Deposit Account No. 11-1410.

Respectfully submitted,

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Dated: August 22, 2002

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